NCBI   results of **BLAST**

BLASTP 2.2.9 [May-01-2004]

Reference:
Altschul, Stephen F., Thomas L. Madden, Alejandro A. Schäffer,
Jinghui Zhang, Zheng Zhang, Webb Miller, and David J. Lipman (1997),
"Gapped BLAST and PSI-BLAST: a new generation of protein database search
programs", Nucleic Acids Res. 25:3389-3402.

RID: 1084309645-3090-115205537144.BLASTQ3

Query=
       (30 letters)

**Database**: All non-redundant GenBank CDS
translations+PDB+SwissProt+PIR+PRF excluding environmental samples
       1,798,171 sequences; 593,787,773 total letters

If you have any problems or questions with the results of this search
please refer to the **BLAST FAQs**

Taxonomy reports

Distribution of 17 Blast Hits on the Query Sequence

Mouse-over to show defline and scores. Click to show alignments

Color Key for Alignment Scores

<40	40-50
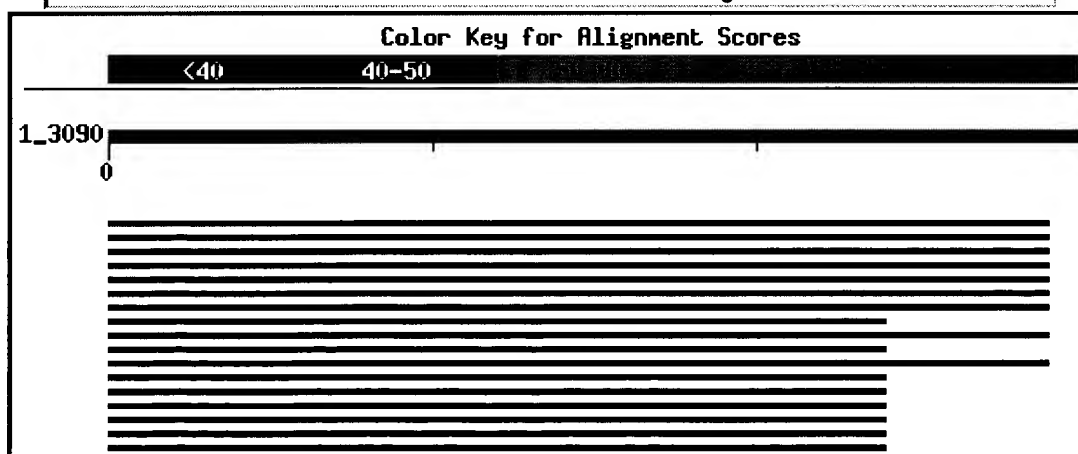
Related Structures

Sequences producing significant alignments:	Score (bits)	E Value	
gi|13124462|sp|Q9XT35|PTH_MACFA Parathyroid hormone precurs...	41	0.006	
gi|4506267|ref|NP_000306.1| parathyroid hormone preproprote...	40	0.011	L
gi|1709894|sp|P52212|PTHY_CANFA PARATHYROID HORMONE PRECURS...	40	0.015	L
gi|11119195|gb|AAG30545.1| preproparathyroid hormone [Felis...	39	0.035	
gi|163647|gb|AAA30749.1| preproparathyroid hormone	38	0.055	L
gi|131548|sp|P01269|PTHY_PIG PARATHYROID HORMONE PRECURSOR ...	38	0.062	L
gi|31982386|ref|NP_776379.2| parathyroid hormone [Bos tauru...	38	0.063	L
gi|209186|gb|AAA73011.1| parathyroid hormone >gi|565142|gb|...	36	0.20	
gi|8394100|ref|NP_058740.1| parathyroid hormone [Rattus nor...	35	0.37	L

```
gi|7416876|gb|AAF62347.1|  parathyroid hormone [Equus caballus]    35   0.41
gi|229314|prf||701028A  parathyrin                                 34   0.63
gi|30387856|gb|AAP32220.1|  hypothalamic parathyroid hormone...    34   0.69
gi|2118603|pir||I51851  parathyroid hormone - rat (fragment)...    33   1.2
gi|10181174|ref|NP_065648.1|  parathyroid hormone; parathyro...    33   1.3    L
gi|6980561|pdb|1BWX|    The Solution Structure Of Human Parat...    33   1.9    S
gi|1065314|pdb|1HPH|    Human Parathyroid Hormone Fragment 1 ...    31   5.4    S
gi|1942098|pdb|1ZWC|    Structure Of Bovine Parathyroid Hormo...    31   6.9    S
```

Alignments

<div style="border:1px solid #000; display:inline-block; padding:4px;">Get selected sequences   Select all   Deselect all</div>

☐ >gi|13124462|sp|Q9XT35|PTH_MACFA   Parathyroid hormone precursor (Parathyrin) (PTH)
gi|5359716|gb|AAD42777.1| parathyroid hormone precursor [Macaca fascicularis]
      Length = 115

```
 Score = 41.2 bits (95), Expect = 0.006
 Identities = 27/33 (81%), Positives = 27/33 (81%), Gaps = 3/33 (9%)

Query: 1   SVSEIQX-HNXGKHLNSXERVEWLR-KLQ-VHN 30
           SVSEIQ  HN GKHLNS ERVEWLR KLQ VHN
Sbjct: 32  SVSEIQLMHNLGKHLNSMERVEWLRKKLQDVHN 64
```

☐ >gi|4506267|ref|NP_000306.1| L parathyroid hormone preproprotein; parathyrin; parathormone [Homo
      sapiens]

gi|131547|sp|P01270|PTHY_HUMAN   L Parathyroid hormone precursor (Parathyrin) (PTH) (Parathormone)
gi|2144647|pir||PTHU   parathyroid hormone precursor [validated] - human

gi|37144|emb|CAA23843.1| L unnamed protein product [Homo sapiens]

gi|190704|gb|AAA60215.1| L preproparathyroid hormone
      Length = 115

```
 Score = 40.4 bits (93), Expect = 0.011
 Identities = 25/33 (75%), Positives = 25/33 (75%), Gaps = 3/33 (9%)

Query: 1   SVSEIQX-HNXGKHLNSXERVEWLRK--LQVHN 30
           SVSEIQ  HN GKHLNS ERVEWLRK   VHN
Sbjct: 32  SVSEIQLMHNLGKHLNSMERVEWLRKKLQDVHN 64
```

☐ >gi|1709894|sp|P52212|PTHY_CANFA   PARATHYROID HORMONE PRECURSOR (PARATHYRIN) (PTH)
gi|1085421|pir||JC4202   parathyroid hormone precursor - dog

gi|558916|gb|AAA82584.1| L parathyroid hormone precursor
      Length = 115

```
 Score = 39.7 bits (91), Expect = 0.015
 Identities = 26/33 (78%), Positives = 27/33 (81%), Gaps = 3/33 (9%)

Query: 1   SVSEIQX-HNXGKHLNSXERVEWLR-KLQ-VHN 30
           SVSEIQ  HN GKHL+S ERVEWLR KLQ VHN
Sbjct: 32  SVSEIQFMHNLGKHLSSMERVEWLRKKLQDVHN 64
```

☐ >gi|11119195|gb|AAG30545.1| preproparathyroid hormone [Felis catus]
      Length = 115

```
 Score = 38.5 bits (88), Expect = 0.035
 Identities = 26/33 (78%), Positives = 27/33 (81%), Gaps = 3/33 (9%)

Query: 1   SVSEIQX-HNXGKHLNSXERVEWL-RKLQ-VHN 30
```

```
                    SVSEIQ  HN GKHL+S ERVEWL RKLQ VHN
         Sbjct: 32 SVSEIQFMHNLGKHLSSVERVEWLRRKLQDVHN 64
```

>gi|163647|gb|AAA30749.1| **L** preproparathyroid hormone
          Length = 115

Score = 38.1 bits (87), Expect = 0.055
Identities = 25/33 (75%), Positives = 27/33 (81%), Gaps = 3/33 (9%)

```
Query: 1  SVSEIQX-HNXGKHLNSXERVEWLR-KLQ-VHN 30
          +VSEIQ  HN GKHL+S ERVEWLR KLQ VHN
Sbjct: 32 AVSEIQFMHNLGKHLSSMERVEWLRKKLQDVHN 64
```

>gi|131548|sp|P01269|PTHY_PIG   PARATHYROID HORMONE PRECURSOR (PARATHYRIN) (PTH)
gi|2144646|pir||PTPG   parathyroid hormone precursor - pig

gi|1839|emb|CAA29193.1| **L** unnamed protein product [Sus scrofa]
          Length = 115

Score = 37.7 bits (86), Expect = 0.062
Identities = 24/33 (72%), Positives = 25/33 (75%), Gaps = 3/33 (9%)

```
Query: 1  SVSEIQX-HNXGKHLNSXERVEWLRK--LQVHN 30
          SVSEIQ  HN GKHL+S ERVEWLRK    VHN
Sbjct: 32 SVSEIQLMHNLGKHLSSLERVEWLRKKLQDVHN 64
```

>gi|31982386|ref|NP_776379.2| **L** parathyroid hormone [Bos taurus]
gi|131545|sp|P01268|PTHY_BOVIN   Parathyroid hormone precursor (Parathyrin) (PTH)
gi|69233|pir||PTBO   parathyroid hormone precursor - bovine

gi|85|emb|CAA23439.1| **L** preproparathyroid hormone [Bos taurus]

gi|163643|gb|AAA30747.1| **L** preproparathyroid hormone

gi|163645|gb|AAA30748.1| **L** preproparathyroid hormone
          Length = 115

Score = 37.7 bits (86), Expect = 0.063
Identities = 23/33 (69%), Positives = 25/33 (75%), Gaps = 3/33 (9%)

```
Query: 1  SVSEIQX-HNXGKHLNSXERVEWLRK--LQVHN 30
          +VSEIQ  HN GKHL+S ERVEWLRK    VHN
Sbjct: 32 AVSEIQFMHNLGKHLSSMERVEWLRKKLQDVHN 64
```

>gi|209186|gb|AAA73011.1| parathyroid hormone
gi|565142|gb|AAB31748.1| human parathyroid hormone; hPTH [synthetic construct]
          Length = 85

Score = 36.2 bits (82), Expect = 0.20
Identities = 22/26 (84%), Positives = 22/26 (84%), Gaps = 1/26 (3%)

```
Query: 1  SVSEIQX-HNXGKHLNSXERVEWLRK 25
          SVSEIQ  HN GKHLNS ERVEWLRK
Sbjct: 2  SVSEIQLMHNLGKHLNSMERVEWLRK 27
```

>gi|8394100|ref|NP_058740.1| **L** parathyroid hormone [Rattus norvegicus]

gi|131549|sp|P04089|PTHY_RAT **L** Parathyroid hormone precursor (Parathyrin) (PTH)
gi|92588|pir||A05091   parathyroid hormone precursor - rat

gi|56003|emb|CAA29192.1| **L** unnamed protein product [Rattus norvegicus]

gi|206485|gb|AAA41979.1| **L** preproparathyroid hormone
          Length = 115

```
Score = 35.0 bits (79), Expect = 0.37
Identities = 23/33 (69%), Positives = 26/33 (78%), Gaps = 3/33 (9%)

Query: 1   SVSEIQX-HNXGKHLNSXERVEWLR-KLQ-VHN 30
           +VSEIQ  HN GKHL S ER++WLR KLQ VHN
Sbjct: 32  AVSEIQLMHNLGKHLASVERMQWLRKKLQDVHN 64
```

☐ >gi|7416876|gb|AAF62347.1| parathyroid hormone [Equus caballus]
          Length = 86

```
Score = 35.0 bits (79), Expect = 0.41
Identities = 22/26 (84%), Positives = 22/26 (84%), Gaps = 1/26 (3%)

Query: 1   SVSEIQX-HNXGKHLNSXERVEWLRK 25
           SVSEIQ  HN GKHLNS ERVEWLRK
Sbjct: 3   SVSEIQLMHNLGKHLNSVERVEWLRK 28
```

☐ >gi|229314|prf||701028A   parathyrin
          Length = 84

```
Score = 34.3 bits (77), Expect = 0.63
Identities = 20/26 (76%), Positives = 22/26 (84%), Gaps = 1/26 (3%)

Query: 1   SVSEIQX-HNXGKHLNSXERVEWLRK 25
           +VSEIQ  HN GKHL+S ERVEWLRK
Sbjct: 1   AVSEIQFMHNLGKHLSSMERVEWLRK 26
```

☐ >gi|30387856|gb|AAP32220.1| hypothalamic parathyroid hormone [Rattus sp.]
          Length = 105

```
Score = 34.3 bits (77), Expect = 0.69
Identities = 21/33 (63%), Positives = 24/33 (72%), Gaps = 3/33 (9%)

Query: 1   SVSEIQX-HNXGKHLNSXERVEWLRK--LQVHN 30
           +VSEIQ  HN GKHL S ER++WLRK    VHN
Sbjct: 22  AVSEIQLMHNLGKHLASVERMQWLRKKLQDVHN 54
```

☐ >gi|2118603|pir||I51851   parathyroid hormone - rat (fragment)
   gi|601933|gb|AAA57156.1| parathyroid hormone precursor [Rattus norvegicus]
          Length = 105

```
Score = 33.5 bits (75), Expect = 1.2
Identities = 17/26 (65%), Positives = 21/26 (80%), Gaps = 1/26 (3%)

Query: 1   SVSEIQX-HNXGKHLNSXERVEWLRK 25
           ++SEIQ  HN GKHL S ER++WLRK
Sbjct: 22  AISEIQLMHNLGKHLASVERMQWLRK 47
```

☐ >gi|10181174|ref|NP_065648.1| █ parathyroid hormone; parathyroid hormone precursor [Mus musculus]
   gi|4092930|gb|AAC99656.1| █ parathyroid hormone precursor [Mus musculus]
          Length = 115

```
Score = 33.5 bits (75), Expect = 1.3
Identities = 17/26 (65%), Positives = 21/26 (80%), Gaps = 1/26 (3%)

Query: 1   SVSEIQX-HNXGKHLNSXERVEWLRK 25
           +VSEIQ  HN GKHL S ER++WLR+
Sbjct: 32  AVSEIQLMHNLGKHLASMERMQWLRR 57
```

☐ >gi|6980561|pdb|1BWX| **S** The Solution Structure Of Human Parathyroid Hormone Fragment
1-39, Nmr, 10 Structures
Length = 39

Score = 32.7 bits (73), Expect = 1.9
Identities = 22/26 (84%), Positives = 22/26 (84%), Gaps = 1/26 (3%)

Query: 1   SVSEIQX-HNXGKHLNSXERVEWLRK 25
           SVSEIQ HN GKHLNS ERVEWLRK
Sbjct: 1   SVSEIQLMHNLGKHLNSMERVEWLRK 26

☐ >gi|1065314|pdb|1HPH| **S** Human Parathyroid Hormone Fragment 1 - 37 (Hpth(1-37)) (Nmr, 10
Structures)
Length = 37

Score = 31.2 bits (69), Expect = 5.4
Identities = 22/26 (84%), Positives = 22/26 (84%), Gaps = 1/26 (3%)

Query: 1   SVSEIQX-HNXGKHLNSXERVEWLRK 25
           SVSEIQ HN GKHLNS ERVEWLRK
Sbjct: 1   SVSEIQLMHNLGKHLNSMERVEWLRK 26

☐ >gi|1942098|pdb|1ZWC| **S** Structure Of Bovine Parathyroid Hormone Fragment 1-37, Nmr, 10
Structures
Length = 37

Score = 30.8 bits (68), Expect = 6.9
Identities = 20/26 (76%), Positives = 22/26 (84%), Gaps = 1/26 (3%)

Query: 1   SVSEIQX-HNXGKHLNSXERVEWLRK 25
           +VSEIQ HN GKHL+S ERVEWLRK
Sbjct: 1   AVSEIQFMHNLGKHLSSMERVEWLRK 26

| Get selected sequences | Select all | Deselect all |

Database: All non-redundant GenBank CDS
translations+PDB+SwissProt+PIR+PRF excluding environmental samples
  Posted date: May 11, 2004 12:59 AM
Number of letters in database: 593,787,773
Number of sequences in database: 1,798,171

Lambda   K   H
  0.312   0.127   0.375

Gapped
Lambda   K   H
  0.267   0.0410   0.140

Matrix: BLOSUM62
Gap Penalties: Existence: 11, Extension: 1
Number of Hits to DB: 6,490,304
Number of Sequences: 1798171
Number of extensions: 68202
Number of successful extensions: 75
Number of sequences better than 10.0: 6
Number of HSP's better than 10.0 without gapping: 6
Number of HSP's successfully gapped in prelim test: 0
Number of HSP's that attempted gapping in prelim test: 69
Number of HSP's gapped (non-prelim): 6
length of query: 30
length of database: 593,787,773
effective HSP length: 5
effective length of query: 25

```
effective length of database: 584,796,918
effective search space: 14619922950
effective search space used: 14619922950
T: 11
A: 40
X1: 16 ( 7.2 bits)
X2: 38 (14.6 bits)
X3: 64 (24.7 bits)
S1: 42 (21.9 bits)
S2: 68 (30.8 bits)
```